

Title (en)
Process of manufacturing porous separator for electrochemical power supply

Title (de)
Verfahren zur Herstellung eines porösen Separators für elektrochemische Zelle

Title (fr)
Procédé de fabrication d'un séparateur pour une cellule électrochimique

Publication
EP 0875950 A3 19991215 (EN)

Application
EP 98106356 A 19980407

Priority
US 84709897 A 19970501

Abstract (en)
[origin: EP0875950A2] A method of forming a porous composite separator layer for an electrochemical cell comprising the steps of printing a thin layer of a separator precursor solution on the surface of one of the electrochemical cell electrodes, curing the thin layer of separator precursor solution so that it transforms into a microporous composite separator structure. In the preferred embodiment, the separator precursor solution is formulated as an ink comprising a silica aerogel filler material dispersed in a solution of polymer binder which is dissolved in a suitable solvent. The process allows the manufacture of thin and flexible composite separators which are conformally bonded to the underlying electrodes. <IMAGE>

IPC 1-7
H01M 2/14; H01M 2/16

IPC 8 full level
H01G 9/02 (2006.01); **H01M 4/13** (2010.01); **H01M 4/139** (2010.01); **H01M 6/02** (2006.01); **H01M 8/02** (2006.01); **H01M 10/05** (2010.01); **H01M 10/0568** (2010.01); **H01M 10/0569** (2010.01); **H01M 10/058** (2010.01); **H01M 50/434** (2021.01); **H01M 50/443** (2021.01); **H01M 50/491** (2021.01)

CPC (source: EP US)
H01G 11/52 (2013.01 - EP US); **H01G 11/84** (2013.01 - EP US); **H01M 8/0293** (2013.01 - EP US); **H01M 50/434** (2021.01 - EP US); **H01M 50/443** (2021.01 - EP US); **H01M 50/46** (2021.01 - EP US); **H01M 50/491** (2021.01 - EP US); **Y02E 60/10** (2013.01 - EP); **Y02E 60/13** (2013.01 - US); **Y02E 60/50** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP US)

Citation (search report)
• [PX] EP 0814520 A2 19971229 - IMRA AMERICA INC [US]
• [A] WO 9323886 A1 19931125 - COMMISSARIAT ENERGIE ATOMIQUE [FR], et al
• [A] WO 9311571 A1 19930610 - BELL COMMUNICATIONS RES [US]
• [A] PATENT ABSTRACTS OF JAPAN vol. 013, no. 321 (E - 790) 20 July 1989 (1989-07-20)

Cited by
EP1427043A4; US6153337A; DE10347570B4; CN105304848A; CN108400272A; EP0997961A3; EP2875515A4; WO2015016730A2; US10454088B2; US6277514B1; WO2014105483A3; WO0072391A3; WO2014082700A1; WO2008012765A3; US9786926B2; US10673077B2; US6403245B1; US10381623B2; US10879513B2; US11217859B2; US11387521B2; US6183901B1; US6194098B1; US6410182B1; US6423444B1; US10020516B2; US10658679B2; US11502311B2; US6306545B1; US9786444B2; US10833307B2; US11728544B2; US9871239B2; US9917309B2; US10505168B2; US10686197B2; US10797288B2; US11121432B2; US11264676B2; US11522252B2; US9548511B2; US9825305B2; US10109864B2; US10396365B2; US10770733B2; US11063265B2; US11637292B2; US11962017B2; WO2014015074A1; US9660297B2; US10221071B2; US10403874B2; US10651444B2; US11066306B2; US11283137B2; US11335976B2; US11387523B2; US11605862B2; US11621459B2; US11673811B2; US11777176B2; US11870097B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
EP 0875950 A2 19981104; EP 0875950 A3 19991215; JP 4790880 B2 20111012; JP H10334877 A 19981218; US 5882721 A 19990316

DOCDB simple family (application)
EP 98106356 A 19980407; JP 12112598 A 19980430; US 84709897 A 19970501